Breating Sociation of Washington

State of the Air in Washington 2004

ne in every nine adults and one in every 10 children in Washington suffers from asthma, so the quality of our air makes a difference in their daily lives. That's why the American Lung Association of Washington and air quality agencies around the state are working together for clean air.

And there is good news about our air quality – it is getting better! In this annual State of the Air in Washington report, we bring you success stories about businesses and organizations that are making choices to help improve air quality. We also tell you about the challenges we still face and some of the ways you can help.

The American Lung Association of Washington's mission is to assure lung health for the people of Washington. We do that by fighting bad air, tobacco use and the asthma epidemic. We hope you can use this report to join us in improving life, one breath at a time.

Marina Cofer-Wildsmith, MA

Chief Executive Officer
American Lung Association of Washington

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State summary

Students will breathe easier on school buses

Air toxics and fine particles are two of the biggest air quality concerns in the state of Washington, and diesel exhaust is a significant source of these pollutants. But major progress is being made to address pollution from diesel school buses, thanks to the Washington State Legislature.



About 1,500 school buses will become low-polluting this year under the Washington State Clean School Bus Program.

During the five-year life of the program, up to 7,500 buses will become cleaner, when retrofitted with devices to reduce pollutants from the exhaust. Retrofitted buses emit 50 to 90 percent fewer toxic emissions and 30 to 90 percent less fine-particle pollution.

"We applaud state lawmakers for funding a program that will protect the health of our school children. Thanks to them, our yellow school buses will become low-polluting and air-friendly," said Mary Burg, Washington State Deptartment of Ecology's Air Quality Program Manager.

Representative Murray, chair of the House Transportation Committee, and Senator Horn, chair of the Senate Highways and Transportation Committee, led the effort to generate support for the program during the 2003 legislative session. Their legislative bill, ESSB 6072, provided about \$5 million statewide in its first fiscal year, primarily to install retrofit emission controls on existing diesel school buses.

"This is the largest statewide, state-funded voluntary school bus retrofit program in the country," said Dennis McLerran, Executive Director of the Puget Sound Clean Air Agency, which promoted the legislation in partnership with Ecology.

The U.S. Environmental Protection Agency (EPA) has mandated strong new standards for diesel fuels and vehicles to take effect in 2006 and 2007. But because diesel engines have very long lives, school buses are kept in fleets for an average of 12 to 15 years with many serving for up to 25 years. Thus, one or more secondary school student generations could be exposed to harmful effects of diesel exhaust before school children and state residents would significantly



benefit from the new federal standards. Therefore, beginning now—this year, voluntary actions under the Washington State Clean School Bus Program mean immediately reaping better health protection for children.



Cut-away example of a particle trap being installed on retrofitted buses. Bus shown has one installed and the engine is running, with no visible emissions.



Northeast Washington

Southeast Washington

See pages 8-11 for a discussion of key air quality issues in these four areas of the state.

Agricultural burning: Smoke Net reaps benefits

Fine particle (PM2.5) monitors are now located throughout Northeast and Southeast Washington. These Smoke Net monitors are used every day when making the state's daily agricultural burn decision. Most monitors are on the Ecology Web site and the Air Watch Northwest Web site. The public can view air quality at near real time, 24 hours a day.

In 1998, the baseline for field burning was 229,000 acres burned. In 2003, there were 123,285 acres burned; this is a 46 percent reduction and translates into significantly lower emissions.

Smoke, gasoline vapors still a challenge

While progress is being made to clean up school buses and smoke from agricultural burning, air quality agencies continue to work on three other concerns — harmful pollution from wood smoke, outdoor burning, and gasoline vapors.

Smoke from fireplaces, wood stoves and outdoor fires are significant sources of fine particle pollution, which is associated with cancer, heart disease and lung diseases.

Smoke and gasoline vapors both contain toxic chemicals, which can cause cancer, birth defects and other serious health problems. Gasoline vapors also contribute to the formation of ozone, the main ingredient in summertime smog.

In partnership with the American Lung Association of Washington, the Department of Ecology and the seven local air agencies in Washington work to educate citizens on the choices they can make to help address these air quality concerns.



"The largest air quality challenges we face come from the choices individuals make in the vehicles they drive, how they commute to work and school, how they heat their homes, and how they dispose of yard debris," says Ecology's Mary Burg.

For a list of air-friendly choices you can make see page 6 or visit the Web sites of the air quality agencies listed throughout this report. We'll all breathe easier if we work together to clear the air.

For more information

Washington State Dept. of Ecology www.ecy.wa.gov/programs/air/ airhome

Air Watch Northwest www.airwatchnorthwest.org





An easy way to make a difference and protect your air is to keep an eye on air quality and make clean-air choices.

Air Watch Northwest, a partnership of air agencies and the American Lung Association of Washington, is an easy-to-use resource for air quality information and forecasts at www.airwatchnorthwest.org.

One-stop shopping for air quality information

Using EPA's Air Quality Index, agencies classify air quality as green (good), yellow (moderate), orange (unhealthy for healthsensitive groups) or red (unhealthy).

You can sign up for e-mail notices and forecasts about air quality changes. The American Lung Association of Washington's Breathe Easy Network www.alaw.org/ben is for health-sensitive

individuals and others
who need to know when
air quality deteriorates.
Several air quality agencies offer
e-mail notices for businesses and
others.

People can then take actions to minimize exposure to air pollution, such as driving less and not burning. This is especially important for children, the elderly and people with lung diseases.



Urge your legislators to support clean-air laws

Breathing clean, healthy air is not only vital to the one million Washington residents who suffer from lung diseases, but it is important to set standards for future generations to ensure that the Pacific Northwest is a wonderful place to live. An important way to make a difference so we all have clean, healthy air to breathe is to let your legislators know that you care about clean-air laws.

A coalition of stakeholders, including the American Lung Association of Washington, air quality agencies and the Northwest Hearth, Patio & Barbecue Association asked the 2004 legislature to revise the state's burn ban law to better protect public health. Unfortunately, the bill didn't pass, but the coalition will promote it again in 2005.



The bill would revise the threshold for issuing winter burn bans when air quality deteriorates. It would be based on the newer National Ambient Air Quality Standard for fine particles (PM2.5). The current law is based on a coarse-particle (PMI0) level. Fine particles (or "soot") from smoke are much more harmful to people than coarse particles (or "dust"), because they can be breathed more deeply into the lungs and can cause lung irritation, coughing, wheezing and asthma attacks.

To make your voice heard for clean air and healthy lungs, sign up today for our Legislative Advocacy Network at www.alaw.org/legnet and receive timely e-mail action alerts during a legislative session.

Business leaders offer transportation Businesses that offer solutions

that offer
Commute Trip
Reduction (CTR) programs
for their employees make a big
difference in protecting air quality

and reducing traffic congestion and employee stress.

Last year, CTR programs removed 20,700 vehicles from our state's roadways each weekday morning — a line of parked cars that would stretch from Olympia to Everett or Spokane to Pullman. The program also removed 5,000 tons of pollution from our air and saved its participants \$9 million to \$11 million in fuel costs.

Fifteen Washington employers received the 2003 Governor's Commute Smart Award for their worksite programs encouraging the use of buses, carpools, vanpools, bicycling, walking, working from home, and compressed work weeks. These solutions-oriented employers are:



Commute Smart Awards

(for mandatory programs)

- City of Bellevue
- City of Fife
- F5 Networks, Inc., Seattle
- Northwest Hospital & Medical Center, Seattle
- Overlake Christian Church, Redmond
- Premera Blue Cross, Mountlake Terrace
- Russell/Mellon Analytical Services, Tacoma
- State Farm Insurance, DuPont
- Swedish Medical Center, Seattle
- Washington State Department of Ecology, Lacey

Commute Smart Challenger Awards

(for voluntary programs)

- American Lung Association of Washington, Seattle
- Climate Solutions, Olympia
- Community Health Association of Spokane
- Gordon, Thomas, Honeywell, Malanca, Peterson & Daheim, Tacoma

Commute Smart Champion Award

(for long-term CTR leadership)

Safeco, Redmond

Learn what you can do. More information about trip reduction is available at

www.wsdot.wa.gov/tdm/

The Port of Seattle

Making a difference every day

At Seattle-Tacoma International Airport, the Port has a publicaccess natural gas station and is replacing diesel and gasoline vehicles with natural gas. It also is requiring airport taxi and shuttle services to switch to natural gas vehicles.

On the waterfront, the Port uses ultra-low-sulfur diesel fuel in all its diesel engines, has converted cargo cranes from diesel to



electricity, provided plug-ins to keep refrigerated containers cold without diesel, reconfigured container terminals to reduce truck trips, and worked with bus companies to minimize idling at cruise ship terminals.

The Port is one of many public and private organizations that are partners in the Puget Sound Clean Air Agency's Diesel Solutions program. They are making a difference by using cleaner diesel fuel and retrofitting diesel vehicles. To learn more, visit www.pscleanair.org/ dieselsolutions.

The American Lung Association of Washington thanks the Port of Seattle for its financial support for this report – and for its own commitment to clean air.

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10 ways to leave bad air behind

Each of us can make a difference by taking at least one of the action steps listed below. You can get even more ideas by visiting the Web sites of the air quality agencies listed in this report.

Buy a fuel-efficient car. A gas-electric hybrid is a great choice – both for the air and your pocketbook. In electric mode, it produces zero tailpipe emissions, and at 50 to 55 miles per gallon, you'll save big at the gas pump. If you drive 12,000 miles per year you could save more than \$3,000 over five years compared to a car that gets 21 miles per gallon (2004 EPA mileage estimates).

2 Commute by carpool, vanpool or mass transit. Businesses that participate in Commute Trip Reduction (CTR) programs benefit their employees, their business bottom lines and their communities (see page

5). That can make a



dent in the more than 86 million miles we drive each day in Washington State.

Join Flexcar (www.flexcar.com), the largest car-sharing program in the Seattle, Bellevue and Vancouver areas and in Kitsap County. You can leave your car at home on work days or get rid of it altogether

it to the American Lung Association of Washington at www.donateyourcar.com

by donating

Sign up at www.cascade.org for Cascade Bicycle Club's Bike To Work Month (May 21 - June 20). This is the perfect time to start training for our Trek Tri-Island bicycle ride in September – www.alaw.org/trek.

Ask your school district if its buses are part of the Washington State Clean School Bus Program (see page 2).

Nearly 400,000 Washington kids ride school buses every day. It's the safest way to transport students, and now it's a healthier way too.

Use manual or electric lawn mowers and other yard equipment.
Using a gas lawn mower for just one hour produces as much pollution as driving from Seattle to Tacoma or from Yakima to Ellensburg.

Consider converting a woodburning stove or fireplace to natural gas or propane. Like cigarette smoke, chimney smoke contains cancer-causing and toxic compounds, and older, uncertified



2004 Toyota Prius gas-electric hybrid

wood stoves produce significantly more pollution than other forms of heat.

Recycle or compost your yard debris instead of burning it. Outdoor burning is illegal in many areas. And never burn garbage. It's illegal everywhere in the state and even more toxic than burning wood.

Sign up to receive a free email notice when air quality deteriorates due to weather conditions so you can take steps to curb pollution until the weather changes to clear the air. See page 4 for more information.

Become a member of the American Lung Association of Washington's Legislative Advocacy Network (www.alaw.org/legnet) and support our public policy work to prevent air pollution.

Air pollution affects our healthy lifestyles

When a baby cries for no reason; when you have to stop running because your chest hurts; when the fruit picker has to pause to clear the acidic phlegm from his throat; when your mother coughs so hard climbing stairs that she has to bend over to breathe fine particles and toxic fumes may be taking an unseen toll on fragile lung tissue.

Air quality plays both a causative and inflammatory role in lung disease and lung damage. Washington ranks fifth in the nation for the prevalence of asthma. Across our state, over 150,000 children have asthma, and over 4,000 of them have been identified by school nurses as living with life-threatening asthma. On days when the air quality shifts out of the green healthy zone, these children, along with others with lung disease, are at risk for a breathing emergency.

Poor air quality affects all of us. Children are susceptible to birth defects, delayed lung growth and asthma. The elderly can be



exposed to lung cancer, pneumonia, cardiovascular disease and even death. When we exercise on days when the particulate exposure levels are moderate or

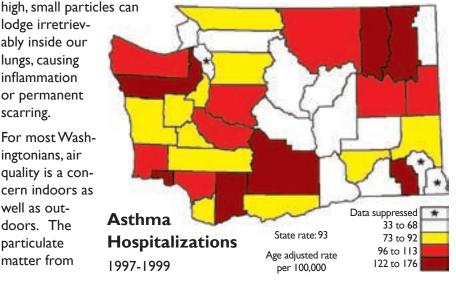
lodge irretrievably inside our lungs, causing inflammation or permanent scarring.

For most Washingtonians, air quality is a concern indoors as well as outdoors. The particulate matter from

the outdoors seeps indoors and continues to wage war on our

Adding further insult to injury is the vast array of chemicals we paint, spray, pour and burn inside our homes, many of which pass directly through our lungs and are carried into our blood stream.

The American Lung Association of Washington's Master Home Environmentalist™ program is a cost-effective way to identify the sources of poor air quality. To learn more, visit www.alaw.org/ mhe or call (800) 732-9339.



Will you make any changes after reading this report?

The American Lung Association of Washington and our air quality partners provide the State of the Air in Washington report as a tool for improving air quality. We need you to tell us if it's useful. Please take a minute to fill out, cut out, and mail us this survey - or complete it on-line at www.alaw.org/sotasurvey

Did you learn new information about clean-air and publichealth issues? Tes No

Are you more aware of the American Lung Association of Washington's efforts to protect air quality? The No

Are you more aware of the work of Washington air quality agencies? Yes No

Has the information in our report influenced you to take any new steps to protect air quality? \square No \square I already do what I can to protect air quality

☐Yes (check those that apply)

- Commute by carpool, vanpool or mass transit.
- ☐ Ask your company to participate in a Commute Trip Reduction program.
- ☐ Become a Flexcar member.
- ☐ Buy a fuel-efficient car.
- ☐ Sign up to receive e-mail air quality messages.
- Consider purchasing a natural gas or propane stove or fireplace.
- ☐ Become a member of our Legislative Advocacy Network (LegNet).

Thank you!





The air in the Puget Sound region and Western Washington is cleaner than it was 20 years ago, but we still face some real challenges – several million of them. This is the state's most populous region. It has more people, more cars, more buses, more heavy equipment and more fireplaces than anywhere else in Washington, and they can take a toll on air quality.

Cleaner cars and an active emissions inspection program are making a difference, but more than half the area's pollution comes from cars, trucks and buses. Around Puget Sound, these vehicles travel about 70 million miles each day. That figure keeps going up every year, making it a challenge to maintain the progress we've made.

Fine-particle pollution, known as PM2.5, is a major source of air pollution in the region. In

the winter, chimney smoke is the primary source, and in the summer, outdoor burning is the culprit. During all seasons, the second leading cause of fine-particle pollution is diesel exhaust.

Diesel exhaust and smoke are also the primary sources of toxics – another concern for public health. Diesel exhaust creates between 70 and 80 percent of the cancer risk attributable to air toxics in our region.

But the good news is that this area is a national leader in retrofitting diesel engines and using ultra-low-sulfur diesel fuel, making diesel vehicles up to 90 percent cleaner. Transit buses and diesel fleets belonging to cities, counties and businesses are being cleaned up, and school bus fleets throughout the region

are being retrofitted under the Washington State Clean School Bus Program (see page 2 for more information).

To help address the other air quality concerns, air agencies actively promote air-friendly choices that citizens can make to protect the air they breathe. They also issue calls to action when air quality deteriorates, asking citizens to take temporary steps to reduce pollution until air quality improves.

For more information

Puget Sound Clean Air Agency www.pscleanair.org Olympic Region Clean Air Agency www.orcaa.org Northwest Air Pollution Authority www.nwair.org



■ Good Moderate

County

Southwest **Washington**

Southwest Washington maintained its record of good air quality in 2003. The region has not exceeded the federal air quality standards since 1998, likely due to favorable weather conditions. Overall, air quality trends since the early 1990s show a gradual reduction in most pollutants, despite rapid population growth.

One major air quality success is in Lewis County where TransAlta's Centralia Generation, a coal-fired power plant, now operates with two sulfur dioxide scrubbers and low-NOx burners, drastically reducing the plant's emissions.

Fine particle pollution, however, appears to be on the rise in Clark County, southwest Washington's population center. Clark County shares its airshed with the greater metropolitan area of Unhealthy for Sensitive Groups

Portland, Oregon, presenting air quality managers with a unique bi-state challenge to keep the air clean.

In collaboration with the Oregon Department of Environmental Quality (DEQ), the Southwest Clean Air Agency calls Clean Air Action Days when ozone levels are expected to approach an unhealthy stage. On these days, Vancouver's public transit agency, C-Tran, offers free rides to its commuters, and industry partners ask their employees to use alternative methods of transportation for their commutes. With seven Clean Air Action Days in 2003, the Vancouver-Portland area approached the federal standard for ozone.

Visibility in the Columbia River Gorge National Scenic Area is also a local concern, so the Southwest Clean Air Agency and Oregon DEQ are conducting an intensive study of air pollution and haze in the Gorge.

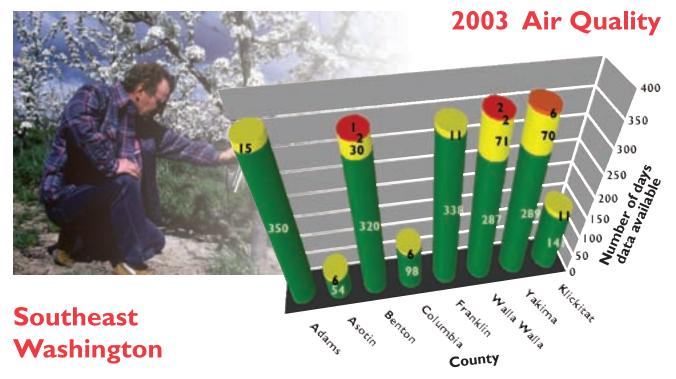
"These studies will help us understand the characteristics and complexity of air pollution in the Gorge so we can work with the public to develop the best way to approach this issue," said Bob Elliott, Executive Director of the Southwest Clean Air Agency.

The agency has also received a grant from the Environmental Protection Agency to install emission-reduction equipment on idling diesel locomotives at the Vancouver switchyard. These retrofit devices will dramatically reduce toxic diesel emissions and noise by allowing the locomotive engines to be shut down when not in use and then easily restarted again when needed.

The Southwest Clean Air Agency also is involved in the Washington State Clean School Bus Program to reduce harmful emissions from diesel school buses. More information about this program is on page 2.

For more information

Southwest Clean Air Agency www.swcleanair.org



Smoke and wind-blown dust continue to pose challenges for Southeast Washington and the agencies responsible for managing air quality.

In the agricultural area around the Tri-Cities, dust remains the biggest air quality problem. Air quality managers here believe blowing dust accounts for 100 times more pollution than all the area's industrial sources combined. Blowing dust can be harmful to human health because, just like smoke, the particles can lodge in the lungs.

The Benton Clean Air Authority has recorded more than 30 exceedances of the federal standard for particulate pollution since 1987, and a multi-year drought in the region will make dust a continued challenge in the months ahead.

On the good news side, however, visibility and particulate levels in late summer and early fall have

improved, thanks to vigorous controls on agricultural burning.

■ Good

Wood stoves, residential and outdoor burning are the major sources of particulate pollution in the Yakima Valley. During the late summer and early fall, dust from unpaved roads is also a local air pollution problem. However, wood stoves are cleaner than they used to be, and people are using them more responsibly, so particulate levels have dropped in the last decade to the point where the area now meets federal standards and will soon be designated an attainment area for PM2.5.

The Yakima area has also seen dramatic improvement in carbon monoxide levels, thanks to cleaner cars and programs such as one that staggers stoplights to prevent unnecessary idling. The area now also meets national

air quality standards for carbon monoxide.

Unhealthy for Sensitive Groups

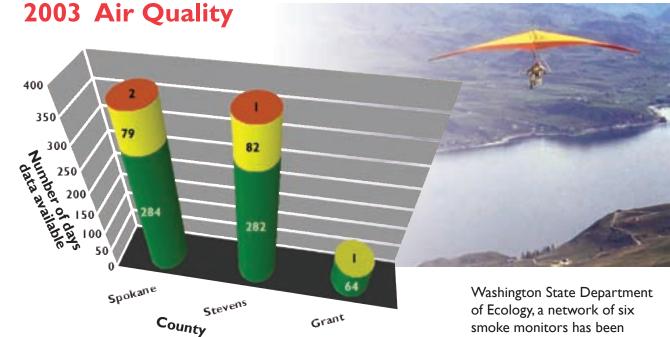
In addition to these successes, air quality agencies in Southeast Washington are actively involved in the Washington State Clean School Bus Program, which is delivering immediate air quality improvements by cleaning up exhaust from diesel school buses. More information about this program is on page 2, or you can contact the air agency for your area.

For more information

Benton County
Benton Clean Air Authority:
www.bcaa.net

Yakima County
Yakima Regional Clean Air
Authority:
www.co.yakima.wa.us/cleanair

Elsewhere in southeast Washington Washington State Dept. of Ecology: www.ecy.wa.gov/programs/air/ airhome.html



Northeast Washington

■ Good

Spokane in the past had some significant air quality problems, especially in the winter. The local topography forms a perfect basin to trap pollutants.

Moderate

The area has seen significant improvement since the early nineties. Spokane now meets federal standards for coarse particles (particulate matter less than 10 microns in diameter) and carbon monoxide.

State and national efforts are partially responsible for this improvement. Cars and wood stoves are both cleaner than they used to be.

Innovative local initiatives have also made a difference. Paving roads and using new sanding techniques in the winter have helped keep dust particles out of the air. A public-private partnership to help low-income residents pay for vehicle emission repairs has reduced tailpipe pollution by more than 100 tons. Agricultural field burning in Spokane County has dropped from 25,000 acres in 1997 to 0 acres in 2003.

■ Unhealthy for Sensitive Groups

Thanks in part to new state funds, diesel school buses are being retrofitted with pollution control equipment. More information about this program can be found on page 2.

In more rural North Central Washington, the challenges to good air quality come from air stagnation caused by inversions that trap smoke from wood stoves and outdoor burning, including agricultural and silvicultural (forestry) burning and wildfires. In a cooperative effort by the US Forest Service and the

Washington State Department of Ecology, a network of six smoke monitors has been placed in this area. Using data from these instruments will enable regulatory agencies and the public to better assess the potential impacts of smoke produced by these various sources.

Challenges remain. As the area grows, the increase in cars has local air quality managers concerned about ozone levels in the summer. The area still has a number of days when fine particle pollution levels are high enough to affect sensitive groups. Smoke from field burning in Idaho still drifts across the border into Washington.

For more information

Spokane County Spokane County Air Pollution Control Authority (SCAPCA): www.scapca.org

Elsewhere in northeast Washington Washington State Dept. of Ecology: www.ecy.wa.gov/programs/air/ airhome.html

Second century

s we enter our second 100 years and witness the continuing toll taken by lung disease in our state, we will not waiver in our determination. We will continue to be vigilant, outspoken in our beliefs and dedicated to removing the burden of lung disease from patients and their families. We invite you to join us. Together we can improve life, one breath at a time.

Please contact us at (800) 732-9339 or visit www.alaw.org to become involved and support us in our important work ahead.

To make a donation to our organization, you can visit our Web site www.alaw.org/donate or mail your donation to the American

Lung Association of Washington at 2625 Third Avenue, Seattle, WA 98121.

If we have incorrect contact information or you would like to receive our newsletters electronically, please call (800) 732-9339 and ask for Paul Payton or email alaw@alaw.org so we can update your record.

Calendar of events

May

Clean Air Month

Blow the Whistle on Asthma Walk	2
World Asthma Day	4
Breathe Easy Breakfast in Yakima	4
Breathe Easy Breakfast in Spokane	12
Bike to Work Month 21 – June	19
World No Tobacco Day	31

June

ALA's 100th Anniversary	6
Asthma Camp Champ	
Coeur d'Alene	17 – 20
Summer Lung Day Confe	rence 18
Asthma Camp Sealth	
Vashon Island	27 – July 2
Big Ride Across America	28 – Aug 14

July

Climb for Clean Air	8 – 18
Asthma Camp Sealth	17 – 23
Asthma Camp Sealth	26 – 30

August

Asthma Camp Sealth 9 – 15

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